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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/718,122 | 11/20/2003 | R. Christopher Carney | 102863-23 | 9095 |
| 21125 7590 02/04/2009 NUTTER MCCLENNEN & FISH LLP WORLD TRADE CENTER WEST 155 SEAPORT BOULEVARD BOSTON, MA 02210-2604 | | | EXAMINER ELVE, MARIA ALEXANDRA | |
| | | | ART UNIT 3742 | PAPER NUMBER |
| | | | NOTIFICATION DATE 02/04/2009 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@nutter.com

Office Action Summary

Application No.

10/718,122

Applicant(s)

CARNEY ET AL.

Examiner

M. Alexandra Elve

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 18 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/5508)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 & 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (JP01-215290) in view of Clark et al. (USPN 4,201,905) and Takahashi (USPN 4,581,939).

Kimura et al. discloses an apparatus and method for the laser cutting of cells.

The condenser lens is vibrated in the axial direction of the laser beam. In addition the stage of the workpiece vibrates.

Kimura et al. does not teach isolation of the laser from the workpiece and the use of a spherical lens.

Clark et al. discloses:

By mounting the laser generator 15 remote from the main frame 12, it is assured that the jarring and vibration caused during operation of the punch will not adversely affect the highly sensitive laser generator. A laser beam pathway is provided through the use of beam benders 30 which, in the embodiment illustrated, with the laser generator mounted to the rear of the main frame 20, first bend the laser beam 31 in a direction parallel with the longitudinal axis of the main frame to a point immediately above the cutter head and then bend the beam at a right angle downwardly towards the work table 11. Such beam benders are commercially available and, for example, model 452 beam bender assemblies available from Photon Sources, Livonia, Michigan have been found adequate. The beam pathway can be enclosed by a ducting or conduit 16a. The control 18 is also located remote from the main frame 12 and control conduit 33 is provided coupling the control 18 to the control panel 35 of the machine tool and to the control panel 36 of the laser beam generator. (col. 4, lines 58-68 & col. 5, lines 1-9)

Takahashi disclose the use of vibration and a laser to find defects ultrasonically. One half of the parallel rays of the light are projected on the surface of the specimen by a half mirror and another half of the parallel rays of light are projected on the surface of the specimen by a spherical lens.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use an isolation frame as taught by Clark et al. and a spherical lens as taught by Takahashi because the isolation frame ensures more accurate laser machining and the use of the spherical lens it is merely a specific type of lens used in laser system and hence is a design choice and variation (design variation and rearrangement of parts is known in the art).

Claims 1 & 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosch (DE 39-38-779 A1) in view of Clark et al., Hillier (USPN 2,496,051) and Takahashi.

Bosch discloses the laser drilling of small holes in a metal part. The laser micro drills the metal to form boreholes. Drilling material (debris) is ejected due to the vibration of the workpiece. Vibration is transmitted to the ram (12, 13) and subsequently the work holder (3). The oscillation generator is connected (9).

Clark et al. discloses:

By mounting the laser generator 15 remote from the main frame 12, it is assured that the jarring and vibration caused during operation of the punch will not adversely affect the highly sensitive laser generator. A laser beam pathway is provided through the use of beam benders 30 which, in the embodiment illustrated, with the laser generator

mounted to the rear of the main frame 20, first bend the laser beam 31 in a direction parallel with the longitudinal axis of the main frame to a point immediately above the cutter head and then bend the beam at a right angle downwardly towards the work table 11. Such beam benders are commercially available and, for example, model 452 beam bender assemblies available from Photon Sources, Livonia, Michigan have been found adequate. The beam pathway can be enclosed by a ducting or conduit 16a. The control 18 is also located remote from the main frame 12 and control conduit 33 is provided coupling the control 18 to the control panel 35 of the machine tool and to the control panel 36 of the laser beam generator. (col. 4, lines 58-68 & col. 5, lines 1-9)

It would have been obvious to one of ordinary skill in the art at the time of the

invention to use an isolation frame as taught by Clark et al. in the Bosch system because it ensures more accurate laser machining.

Hillier discloses a specimen stage resting close to a lens whereby external vibrations communicate through the equipment frame to the lens and also to the stage. Thus both vibrate in unison.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the lens and stage (frame) vibrate in unison, as taught by Hillier in the Bosch apparatus and method because it minimizes machining errors due to drift.

Bosch does not teach the use of a spherical lens.

Takahashi disclose the use of vibration and a laser to find defects ultrasonically. One half of the parallel rays of the light are projected on the surface of the specimen by a half mirror and another half of the parallel rays of light are projected on the surface of the specimen by a spherical lens.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a spherical lens as taught by Takahashi it is merely a specific type of lens used in laser system and hence is a design choice and variation (design variation and rearrangement of parts is known in the art).

Claims 2-4 & 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al., Clark et al. and Takahashi, as stated above and further in view of Mosavi et al. (USPN 6,252,195).

Kimura et al. does not teach the type of laser, the formation of a hole, or the formation of a surgical needle.

Mosavi et al. discloses forming holes in a surgical needle using an Nd-YAG laser. High-energy laser pulses form a blind hole in the proximal end of a surgical needle.

It would have been obvious to one of ordinary skill in the art at the time of the invention to make surgical needles, as taught by Mosavi et al., in the Kimura et al. system because the vibrational system ensures a high quality bore hole.

The rearrangement of parts was held to have been obvious. In re Japikse 86 USPQ 70.

Claims 2-4 & 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosch, Clark et al. Hillier and Takahashi, as stated above and further in view of Mosavi et al.

Bosch does not teach the type of laser or the formation of a surgical needle.

Mosavi et al. discloses forming holes in a surgical needle using an Nd-YAG laser. High-energy laser pulses form a blind hole in the proximal end of a surgical needle.

It would have been obvious to one of ordinary skill in the art at the time of the invention to make surgical needles, as taught by Mosavi et al., in the Bosch system because the vibrational system ensures a high quality bore hole.

The rearrangement of parts was held to have been obvious. In re Japikse 86 USPQ 70.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 7:30-4:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

February 1, 2009.

/M. Alexandra Elve/
Primary Examiner, Art Unit 3742